1131 Cardiovascular Disease in Populations

Tuesday, March 31, 1998, Noon–2:00 p.m.
Georgia World Congress Center, West Exhibit Hall Level
Presentation Hour: 1:00 p.m.–2:00 p.m.

1131-47 Prevalence of Left Ventricular Dysfunction and Valve Disease in a Typical English Region

R.C. Davis, F.D.R. Hobbs, S. McLeod, T. Marshall, J.E. Kenkre, R.J. Lancashire, R. Hare, D. Wosornu, M.K. Davies. *University of Birmingham, England*

Background: Heart failure can now be treated effectively, but it can be difficult to diagnose accurately on clinical grounds. ACE inhibitors also improve prognosis in patients with asymptomatic left ventricular (LV) impairment. Most previous studies of the prevalence of heart failure have not used objective assessment of left ventricular function, which can be provided by echocardioaraphy.

Methods: We are screening 7000 patients aged 45 and above from the community in West Midlands region of England: 4000 randomly selected aged 45+; 1000 with an existing diagnosis of clinical heart failure; 1000 on diuretics; and 1000 with 'risk factors' for heart failure (previous MI, diabetes, hypertension or angina). Patient assessment includes clinical history and examination, ECG, and echocardiography, with colour flow and spectral doppler studies.

Results: The table details the findings in the first 2855 patients. EF = LV ejection fraction. Valve disease = significant stenosis, at least moderate regurgitation, or valve replacement.

	EF <40%	EF 40–50%	Valve disease
45+ population sample	40/2254 (1.8%)	40/2254 (1.8%)	70/2254 (3.1%)
Previous diagnosis of heart failure	52/175 (29.7%)	18/175 (10.3%)	56/175 (32.0%)
On diuretics	24/203 (11.8%)	10/203 (4.9%)	33/203 (16.3%)
High-risk groups	25/306 (8.2%)	15/306 (4.9%)	22/306 (7.2%)

Conclusion: The prevalence of definite LV systolic dysfunction was 1.8% in the population sample. Only 30% of those whose GP had diagnosed heart failure had definite systolic dysfunction. Valve disease was frequently found in those with a diagnosis of heart failure, often as the only abnormality.

1131-48 Mitral Valve Prolapse Reconsidered: Prevalence and Epidemiology in the Framingham Heart Study

L.A. Freed, D. Levy, R.A. Levine, M.G. Larson, J.C. Evans, D.L. Fuller, B. Lehman, A.J. Benjamin. *Massachusetts General Hospital, Boston, MA; NHLBI's Framingham Heart Study, Framingham, MA, USA*

Estimates of the prevalence of mitral valve prolapse (MVP) generally, have been derived from hospital-based referral populations and are as high as 7% of men and 21% of women. To determine the prevalence of MVP in the general population diagnosed using current 2D echocardiographic criteria, we examined the echocardiograms of 3487 subjects (1842 women, 1645 men) in the Framingham Offspring Study. Maximal mitral leaflet superior displacement in systole (D) and leaflet thickness in diastasis (T) were measured. The subjects were classified as classic MVP (D >2 mm, T ≥ 5 mm), nonclassic MVP (D >2 mm, T < 5 mm), or no MVP (D ≤ 2 mm).

Prevalence of:	Total (%)	Women (%)	Men (%)
Classic MVP	46 (1.3%)	25 (1.4%)	21 (1.3%)
Nonclassic MVP	37 (1.1%)	24 (1.3%)	13 (0.8%)

Compared with the general sample, MVP subjects had similar age and gender distribution and prevalence of hypertension, but were significantly leaner (2.5 kg/m^2, p = 0.0001). There were no MVP subjects with heart failure, one with atrial fibrillation, and one with stroke, compared with population prevalences of 0.6, 1.6, and 1.5%

Conclusions: 1. The prevalence of MVP in this healthy unselected population is lower than previously reported. 2. Adverse sequelae commonly associated with MVP in referral populations are rare in our MVP cases identified in a general population.

1131-49 A National Screening Program for the Identification of Persons With Familial Hypercholesterolemia in the Netherlands

M.A.W. Umans-Eckenhausen[1], J.C. Defesche[2], F. Cliné[3], J.J.P. Kastelein[2]. [1] *The StOEH, the Netherlands;* [2] *The Academic Medical Center, Amsterdam, the Netherlands;* [3] *The Ministry of Health, Rijswijk, the Netherlands*

Background: The Dutch Government encouraged the development of an active screening program for identification of Familial Hypercholesterolemia (FH) pts to ensure early diagnosis and treatment to prevent cardiovascular disease. This program is executed since 1993 by the StOEH.

Methods: A nation-wide network of lipid clinics was established to identify FH index pts. Subsequently relatives were actively contacted and screened for FH using DNA testing.

Results: Between 1993 and July 1997 1345 index pts were identified. The family screening was completed in 169 families. Participation rate of relatives 96%. Number of relatives screened 3268. Number of FH pts identified 1205 (37%), 539 (45%) males and 666 (55%) females. Of the FH males: 204 (37%) report a cholesterol higher then 290 mg/dl, 37 (7%) report cardiovascular disease at time of identification. For the females these numbers are respectively 275 (41%) and 44 (7%). Only 10% of FH pts received adequate treatment prior to screening. After identification, 93% of pts received adequate treatment.

Conclusion: Large-scale DNA-analysis of families affected with FH, is highly selective and efficient in the identification of new cases. The result being adequate therapeutic intervention in the presymptomatic phase of the disease for most pts. As such this program can be an useful addition to the existing programs for the prevention of cardiovascular diseases.

1131-50 Smoking and HDL-Cholesterol in a Population of Young Male Adults: Study of 1954 Greek Army Recruits

C. Pitsavos, I. Skoumas, V. Koulouilias, M. Toutouza, A. Doulalas, S. Paximadas, N. Giotsas, S. Vaina, S. Lambrou, C. Stefanadis, P. Toutouzas. *Hippokration Hospital, Athens University, Greece*

Background: The adverse effect of smoking on plasma HDL-cholesterol (HDL-C) has been established by epidemiological studies mainly in middle-aged persons. In contrast, the relation between smoking and HDL-C in young healthy adults has not been adequately studied. In order to further investigate this issue, we studied 1954 from a population of 2009 male recruits of the Greek army, aged 22.3 ± 2.9 years.

Methods: Plasma lipid levels (total cholesterol, triglycerides and HDL-C) were measured and a medical history was completed in all recruits. We considered as smokers those who reported smoking >10 cigarettes per day (C/D) for at least one year, while recruits smoking <10 C/D or for <1 year (n = 55) were excluded from the study. Mean body mass index (BMI) in this population was 23.4 ± 3.3 kgr/m^2.

Results: Of the total population, 759 recruits (38.8%) were smokers and 1195 (61.2%) were non-smokers. No significant differences were found between smokers and non-smokers regarding BMI (23.4 ± 3.3 vs 23.3 ± 3.2 kgr/m^2, p = NS), age (22.2 ± 3 vs 22.4 ± 2.9 years, p = NS) and plasma HDL-C (45.4 ± 12 vs 45.4 ± 9.8 mg/dl, p = NS). Multiple regression analysis was employed to evaluate the correlation between HDL-C and duration of smoking, daily cigarette consumption, alcohol consumption, BMI and age. Only alcohol consumption was found to affect HDL-C values positively (B = 0.096, p = 0.003). In addition, the relation between HDL-C values (now defined as either ≥35 mg/dl or ≥45 mg/dl) and the aforementioned variables plus exercise was evaluated by logistic regression analysis. A positive correlation was revealed between alcohol consumption and HDL-C values ≥35 mg/dl (B = 0.032, p = 0.04) as well as between HDL-C ≥45 mg/dl and alcohol consumption, exercise and age (B = 0.024, p = 0.05; B = 0.15, p = 0.03 and B = 0.047, p = 0.03 respectively). The partial coefficient of correlation between smoking and HDL-C (zero order) was 0.018 (p = NS); when alcohol consumption, BMI and age were not included in the analysis (3rd order), its value was −0.0085 (p = NS).

Conclusion: HDL-C is not influenced by smoking in young Greek male adults. This fact may indicate that the adverse effect of smoking in plasma HDL-C is expressed after a longer period of exposure to smoking, or that it is modified by dietary factors (Mediterranean diet).

1131-51 Geographical Variation in Cardiovascular Risk Factors in Patients With Coronary Heart Disease in Nine European Countries (EUROASPIRE)

D. Wood. *On behalf of the EUROASPIRE investigators; Imperial College School of Medicine, London, UK*

In a nine country European survey - Czech Republic, Finland, France, Germany, Hungary, Italy, Netherlands, Slovenia and Spain - there was considerable variation in the prevalence of cardiovascular risk factors in patients with coronary heart disease. Consecutive patients within 4 diagnsotic categories (CABG, PTCA, acute myocardial ischaemia and myocardial ischaemia without infarction) were identified in a sample of hospitals within a geographical area, 3569 patients were interviewed (adjusted response rate 85%) 6 months or later after the index event. At interview the prevalence of current smoking ranged from 12% in Spain to 32% in the Netherlands. Overall men smoked (21%) more commonly than women (14%). Obesity (BMI ≥30 kg/m2) ranged from 19% in the Netherlands to 33% in France. Raised blood pressure (SBP